A primary winding 12 connected to a high-voltage, a large-current power supply 1, a secondary winding 14 connected to an electromagnetic forming coil 2, and a magnetic core 16 for guiding the magnetic flux produced by the primary winding. The magnetic core 16 is composed of a primary core 16a on which the primary winding is wound and a secondary core 16b on which the secondary winding is wound. The primary core and the secondary core are magnetically connected in contact or in close proximity. The primary core and the secondary core are separated from each other when the connector is disconnected. Thus, current pulses at a high voltage (for instance, 10 kV) with a large current (for example, 100 kA or more) and a narrow pulse width (e.g., 30 µsec or less) can be efficiently transmitted, and the connector easily attached and removed.